SLAVSKIY, G.N.; BOGOMOLOV, V.N.; GAVRA, T.D.; SEREBKOV, Yu.I.

Possibilities for using semiconductors in radio electronics.
Trudy LPI no.194:195-209 ' 58.   (MIRA 11:11)
(Semiconductors)

SOV/120-59-2-40/50

AUTHORS: Bogomolov, V.N., Nikolayenko, N.S. and Fedotov, V.P.

TITLE: A D.C.-A.C. Convertor Based on the Use of the Hall Effect (Preobrazovatel' postoyannogo toka v peremennyy, osnovannyy na ispol'zovanii effekta Kholla)

ABSTRACT: A cross-section through the device is in Fig 1. It is 40 mm in diameter and 40 mm high and consists of a permalloy screen surrounding a toroidal coil with a KhVP core. The coil is designed to accept 50 c/s at 6.3 V and draws 0.2 A. The power dissipation is 0.2 W. The semi-conductor wafer (5 x 3.5 x 0.3 mm3) of n-type 8 ohm cm germanium is secured by epoxy resin in an air gap in the core. It has an input resistance of 100 ohms and an output resistance of 500 ohms. The current conversion ratio DC-AC is 20%. The effective flux density is 15000 gauss. The voltage transfer coefficient is 1.2-1.3 per 1000 gauss of field. A compensating coil is also included, as in Fig 2, to increase sensitivity and thermal stability. The converter is intended for operation with the EPP-09 recording potentiometer. The systematic and random components of error are both 0.2%

Card 1/2

SOV/120-59-2-40/50

A D.C.-A.C. Converter Based on the Use of the Hall Effect

and the sensitivity is 5 micro watts. The temperature coefficient is 0.01 % per degree centigrade and the sensitivity falls with temperature. The converter is insensitive to ± 10% change in supply voltage, ± 5% change in supply frequency and the effects of moisture. It is suggested that the unit find application as a computing element or in a d.c. amplifier. V.I. Pogodin is thanked for his assistance.

Card 2/2   There are 2 figures.

ASSOCIATION: Institut poluprovodnikov AN SSSR
(Semiconductor Institute of the Ac. Sc. USSR)

SUBMITTED: April 5, 1958

BOGOMOLOV, V.N.

Mechanical magnetic field modulators and the possibility of
measuring small Hall mobilities. Fiz.tver.tela 1 no.5:829-831
My '59.   (MIRA 12:4)

1. Institut poluprovodnikov AN SSSR, Leningrad.
        (Hall effect)   (Magnetic fields)

BOGOMOLOV, V.N.; SIROTKO, V.K.

Power-direction relay based on the Hall effect. Fiz.tver.tela
1 no.12:1813-1820 D '59.   (MIRA 13:5)

1. Institut poluprovodnikov AN SSSR, Leningrad i Institut
elektromekhaniki AN SSSR.
              (Electric relays)

16.9500

77485
SOV/103-21-1-16/22

AUTHOR: Bogomolov, V. N. (Leningrad)

TITLE: A Contactless Automatic d-c Potentiometer With a
Converter Based on the Hall Effect

PERIODICAL: Avtomatika i telemekhanika, 1960, Vol 21, Nr 1,
pp 135-136 (USSR)

ABSTRACT: In the study are given fundamentals of a contactless
automatic d-c potentiometer with two elements
operating on the principle of the Hall effect. Fig-
ure A shows the block diagram of this potentiometer.
The d-c voltage input signal U_{inp} = is converted into
an alternating $U_{x\sim}$ voltage using the Hall effect con-
verter having a transmission coefficient K_1. $U_{x\sim}$
is given by:

$$U_{x\sim} = K_1 U_{inp} \,\text{---}.$$

Card 1/4

A Contactless Automatic d-c Potentiometer   77485
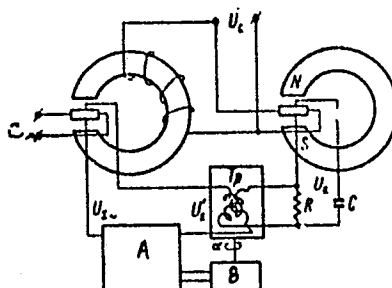With a Converter·Based on the Hall Effect   SOV/103-21-1-16/22

Fig. A.

Considering that K_1 depends on temperature t^0 and on supply voltage U_c, it may be written:

Card 2/4

A Contactless Automatic d-c Potentiometer
With a Converter Based on the Hall Effect

77485
SOV/103-21-1-16/22

$$U_{x} = K_1(t^\circ, U_c) U_{in} = A f_1(t^\circ)/(U_c) U_{in}.$$

In order to compensate the alternating emf, a
voltage U_K is used, obtained from an identical
pickup supplied from the network and placed in
a constant magnetic field H. RC circuit serves
to rotate the phase of U_K by 90°. Thus, the following
equation becomes valid:

$$U_K = K_2(t^\circ) U_c = B f_2(t^\circ)/(U_c) H,$$

where K_2 is the transmission coefficient of the
second pickup. By making a correct selection of
the phase of U_K the compensation on the a-c side
may be obtained in a contactless manner; for example,

Card 3/4

A Contactless Automatic d-c Potentiometer
With a Converter Based on the Hall Effect
77485
SOV/103-21-1-16/22

by means of rotary transformer Tp, the angle of rotation in which α is proportional to U_K. In a case when $U_{x\sim} = U_K$, the angle α is proportional to the d-c input signal $U_{inp=}$ and is independent neither of the changes in voltage U_c nor of temperature changes. When the two pickups are cut from one germanium bar, then the temperature relationship may differ only by 1-2% and the error in the rotation angle equals 0.3-0.6%. There is 1 figure; and 2 Soviet references.

SUBMITTED: June 29, 1959

Card 4/4

βR

PHASE I BOOK EXPLOITATION   SOV/5888

Bogomolov, Valentin Nikolayevich

Ustroystva s datchikami Kholla i datchikami magnitosoprotivleniya
   (Devices Equipped With Hall Effect and Magnetoresistance Effect
   Sensors) Moscow, Gosenergoizdat, 1961. 168 p. (Series: Biblio-
   teka po avtomatike, vyp. 42) 15,000 copies printed.

Editorial Board: I. V. Antik, A. I. Bertinov, S. N. Veshenevskiy,
   V. S. Kulebakin, V. E. Nize, V. S. Malov, A. D. Smirnov, and
   B. S. Sotskov;

Ed.: L. V. Lakunina; Tech. Ed.: G. Ye. Larionov.

PURPOSE: This book is intended for engineers and technicians in
   the automation field. It may also be useful to students spe-
   cializing in automation in schools of higher education.

COVERAGE: The book reviews the Hall effect and the magnetoresist-
   ance effect and defines the basic characteristics of sensors

Card 1/4

Devices Equipped With Hall Effect (Cont.)   SOV/5888

utilizing these effects. The inclusion of data on the presently available sensor materials gives the book some utility as a reference work. No personalities are mentioned. There are 146 references: 53 Soviet, 55 English, 1 French, and 37 German.

TABLE OF CONTENTS:

Card 2/7

S/120/61/000/006/038/041
E034/E485

AUTHORS: Averkin, A.A., Bogomolov, V.N.

TITLE: A high-pressure chamber

PERIODICAL: Pribory i tekhnika eksperimenta, no.6, 1961, 147-148

TEXT: A chamber is described suitable for measurements of
electrical properties of materials under pressure, with a volume
of several ml in which a pressure of 30 atm can be developed
with a 15 ton press. The piston which applies the pressure
moves in a cylinder which is fully immersed in the pressure
transmitting fluid. As the piston travels downwards an
increasing pressure is applied to the outside walls of the
cylinder. A sketch of the apparatus is given. The cylinder 2
is screwed into the body of the chamber 10 bedding on sealing
rings 3. Pressure is applied to the outside of the cylinder by
fluid which leaks into the thread clearances. The cylinder and
piston sealing parts are finished to an accuracy of 0.05 mm and
the diameter of the piston plunger is 0.2 mm less than that of the
cylinder. The bottom of the vessel is sealed by a conical
stopper with sealing ring. Lead-in wires are sealed into a
groove in the stopper with epoxide resin. A cone of 10 mm
Card 1/2

A high-pressure chamber

S/120/61/000/006/038/041
E034/E485

diameter can accommodate up to 12 electrodes.   With teflon
glands the friction loss is about 10%.   The tube has been used
in studies of the Hall effect and of the conductivity of
germanium under pressure.   Acknowledgments are expressed to
V.K.Verzilov for assistance.   There are 2 figures and
3 Soviet-bloc references.

ASSOCIATION: Institut poluprovodnikov AN SSSR
              (Institute of Semiconductors AS USSR)

SUBMITTED: April 28, 1961

Card 2/2

20145

9.4300 (and 1147, 1155, 1158)

AUTHORS: Averkin, A. A. and Bogomolov, V. N.

TITLE: Device for the study of galvanomagnetic effects under all
             round compression

TEXT: When semiconductors or other materials are examined for the in-
fluence exerted by all round pressure upon effects requiring the use of a
magnetic field, the fact that the pressure vessel is placed inside the
magnetic field represents a major difficulty confronting the experiment.
The vessel must be made of a nonmagnetic material, and therefore will dis-
play a lesser solidity, whereby an upper limit is set to the pressure
applied. With a view to bypassing these difficulties, the authors worked
out a special device, described here, to serve for the study of magnetic
effects in all round pressure. The design is presented in Fig. 2 and
offers the advantage of the magnetic field being produced inside the
pressure vessel which can be made of magnetic material. The field itself
is produced between the two coil cores 3 and 6 by coils 2 which are like-

Card 1/4

20145

Device for the study of ...

S/181/61/003/002/043/050
B102/B201

wise placed within the vessel wall 1; the specimen is placed in the window
of ring 4 which is made of nonmagnetic material. Electrodes 5 are poured
in with ЭА-6 (ED-6) epoxy resin which is a good and very stable insulator
after polymerization. From 8 to 12 electrodes can be applied to the core
which is of the order of 10 mm in diameter and has the shape of a cone.
It is properly insulated from the vessel and may serve as an additional
electrode. The inhomogeneity of the magnetic field can be reduced by a
corresponding form of the slit but still requires that the specimen be
fixed within the slit. This is, however, not important when measuring
relative quantities. Both method and device were checked by examining
the pressure dependence of the Hall effect and magnetic resistance on n-
type Ge (resistivity 40 ohm.cm) at pressures up to 15,000 kg/cm^2. The
specimen dimensions were 8 x 5 x 1.5 mm^3. A previous investigation had
shown that at $35^{\circ}C$ the material passed over into the region of intrinsic
conductivity. The device described here (3 mm gap width, 2000 oersteds)
was introduced into the chamber (12 x 40 mm); pressure was transmitted
hydraulically. Measurement results are presented in Fig. 3. It is con-
cluded from them that the width of the forbidden band increases linearly
up to $5.2 \cdot 10^{-6}$ $ev/kg.cm^{-2}$, a value that excellently fits those found by

Card 2/4

20145

S/181/61/003/002/043/050
B102/B201

Device for the study of ...

other authors. A. R. Regel' is thanked for advice and interest displayed. There are 3 figures and 7 references: 5 Soviet-bloc and 2 non-Soviet-bloc.

ASSOCIATION: Institut poluprovodnikov AN SSSR Leningrad (Institute of Semiconductors of the AS USSR, Leningrad)
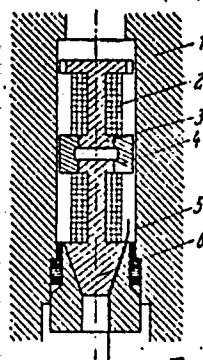
SUBMITTED: July 5, 1960

Fig. 2

Card 3/4

20145

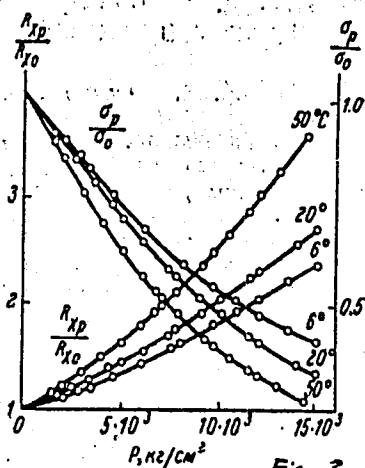Device for the study of ...

S/181/61/003/002/043/050
B102/B201

Fig. 3

Card 4/4   Рис. 3. Зависимость относительного

Fig. 3

S/226/62/000/006/014/016
E073/E535

AUTHORS: Bogomolov, V.N. and Zhuze, V.P.

TITLE: .   Some modern methods of measuring the Hall effect

PERIODICAL: Poroshkovaya metallurgiya, no.6   , 1962, 89-95

TEXT: Published methods, particularly an a.c. method
developed by the authors and their team, of measuring the Hall
effect in nondegenerated and degenerated semiconductors are
discussed.   Difficulties in obtaining a.c. magnetic fields with
low electromagnetic emission were overcome to a considerable
extent by using mechanical magnetic field modulators in which
the d.c. field is modulated by rotating the toothed end-pieces
inside the gap (between the poles) of a permanent- or electro-
magnet.   The a.c. component of the magnetic field is utilised .
for measuring the Hall effect and this can be measured in
substances with mobilities up to $5 \cdot 10^{-3}$ $cm^2/W \cdot sec$.   For the
measurements, a single narrow-band amplifier suffices, since the
current to be fed through the specimen can be taken direct from
the network and the modulator can be driven by a synchronous
motor.   Since the mechanical modulator does not change the polarity

Card 1/2

Some modern methods of ...   S/226/62/000/006/014/016
                                    E073/E535

of the magnetic field, the maximum a.c. amplitude is at best half
the maximum d.c. field between the teeth. If errors due to
rectification at contacts cannot be eliminated, a contactless
method of generating current in the specimen can be applied,
namely, by induction in the specimen of a circular current of the
same frequency as the frequency of the magnetic field. The effects
of possible interference are analysed and the sensitivity is
estimated - this was found to depend on the resistance of the
specimen.   There are 3 figures.

ASSOCIATION: Institut poluprovodnikov AN SSSR, g. Leningrad
               (Semiconductor Institute AS USSR, Leningrad)

SUBMITTED: April 14, 1962

Card 2/2

BOGOMOLOV, V.N.; ZHUZE, V.P.

Some modern methods of measuring the Hall effect. Porosh. met. 2
no.6:89-95 N-D '62.   (MIRA 15:12)

1. Institut poluprovodnikov AN SSSR, Leningrad.
                    (Hall effect)

BOGOMOLOVA, V. N.

Anisotropy of diffusion and electrical properties of rutile (TiO_2).
V. N. Bogomolova.

Report presented at the 3rd National Conference on Semiconductor Compounds,
Kishinev, 16-21 Sept 1963

L 18113-63   EWP(q)/EWT(m)/BDS — AFFTC/ASD — JD
ACCESSION NR: AP3003912   S/0181/63/005/007/2027/2029

AUTHORS: Bogomolov, V. N.; Shavkunov, P. M.

TITLE: Anisotropy of drift mobility of current carriers in partially reduced rutile

SOURCE: Fizika tverdogo tela, v. 5, no. 7, 1963, 2027-2029

TOPIC TAGS: anisotropy, drift mobility, current carrier, rutile, impurity band, conductivity, vacancy, O, electrode, dielectric constant

ABSTRACT: The authors have investigated single oriented crystals of different forms. Samples were cut in the form of plane squares, rectangles, and crosses, with three extensions on each of the four sides for measuring the electrical conductivity. All heating was done at about 750C for 30 minutes, but at various pressures of oxygen. Samples were cooled quickly (2-3 min) to insure uniform distribution of oxygen vacancies. Measurements show that the anisotropy of drift mobility in partially reduced rutile is practically independent of the concentration of oxygen vacancies. The value is approximately 3.5. This value is almost the same as the inverse ratio of the squares of the dielectric constants (3.8)

Card 1/2

L 18113-63
ACCESSION NR: AP3003912

3

along the corresponding directions. The same values for anisotropy of drift mobility apparently hold for pure rutile. It thus follows that "individual" impurity zones do not develop along two crystallographic directions in rutile during its reduction. Jumps in specific resistance were noted, particularly at the positive electrode. When the sample was inverted in the holder, the zone of impoverished carriers was preserved at the negative electrode for a time, but the layer gradually disappeared. This suggests that the jumps in resistance are due to movement of positively charged oxygen vacancies. "We are sincerely grateful to V. P. Zhuze for suggesting the topic and for useful discussions, and also to V. B. Sterkin for his aid in making the measurements." Orig. art. has: 1 figure.

ASSOCIATION: Institut poluprovodnikov AN SSSR, Leningrad (Institute of Semi-conductors, Academy of Sciences, SSSR)

SUBMITTED: 11Mar63   DATE ACQ: 15Aug63   ENCL: 00

SUB CODE: PH   NO REF SOV: 003   OTHER: 006

Card 2/2

L 11282-63   EWP(q)/EWT(m)/BDS—AFFTC/ASD—WH/JH/JG
ACCESSION NR: AP3003904
                                         8/0181/63/005/007/2011/2012

AUTHOR: Bogomolov, V. N.   60
                                                                        56
TITLE: Anisotropic diffusion of oxygen and boron in rutile

SOURCE: Fizika tverdogo tela, v. 5, no. 7, 1963, 2011-2012

TOPIC TAGS: diffusion, anisotropy, single crystal, rutile, oxygen, boron, boric acid, boron carbide, oxidation, reduction, diffusion coefficient, electrical conductivity, resistance, spiral lattice structure, color center, discoloration, decolorization

ABSTRACT: The fact that partial reduction of rutile affects its electrical conductivity has been applied to a study of oxygen and boron diffusion in oriented rutile single crystals. Light blue discoloration on reduction or boron introduction and decolorization on oxidation were observed along the c axis only. These observations led to an investigation of oxygen diffusion along the axes of a partially reduced rutile crystal. After partial reduction, resistance measurements were carried out at 520C in air over a period of time; diffusion coefficients (D) at that temperature were then calculated. Along the c axis, D was found to be about 10^{-5} cm^2/sec; along a perpendicular to the c axis, D was

Card 1/2

L 11282-63

ACCESSION NR: AP3003904

estimated to be several orders of magnitude lower. The results were correlated with the spiral structure of the lattice along the c axis; this structure enables the oxygen atoms to "slide" preferentially along the spirals. Simultaneous reduction and introduction of boron into the crystal lattice confirmed the anisotropy of diffusion in rutile. Boron atoms and oxygen vacancies diffused along the c axis only, as indicated by color centers that are stable even after reoxidation of the sample, as well as by an x-ray method [unspecified]. "I take the opportunity to thank V. P. Zhuze, B. I. Boltaks, and A. M. Yelistratov for their valuable discussion and advice." Orig. art. has: 1 figure.

ASSOCIATION: Institut poluprovodnikov AN SSSR, Leningrad (Institute of Semi-conductors, AN SSSR)

SUBMITTED: 26Feb63   DATE ACQ: 15Aug63   ENCL: 00

SUB CODE: CH   NO REF SOV: 002   OTHER: 003

ls/

Card 2/2

BOGOMOLOV, V.N.; ZHUZE, V.P.

Anisotropy of the Hall effect in partially reduced single-crystal rutile (TiO_2). Fiz. tver. tela 5 no.11:3285-3290 N '63.

1. Institut poluprovodnikov AN SSSR, Leningrad.   (MIRA 16:12)

L 59560-65

ACCESSION NR: AP5013844   UR/0103/65/026/005/0882/0890
                                                       621.398.694.3:538.212

AUTHOR: Bogomolov, V. N. (Leningrad)

TITLE: Generation of oscillations by means of magnetoresistance devices

SOURCE: Avtomatika i telemekhanika, v. 26, no. 5, 1965, 882-890

TOPIC TAGS: magnetoresistance, magnetoresistance oscillator

ABSTRACT: A theory of galvanomagnetic oscillators is presented, with formulas which show the parameters ensuring the highest efficiency of generation. Separately -excited (by square pulses) and self-excited oscillators are examined. Design features (magnetoresistor shape, magnetic-circuit configuration, constant magnetic bias) are described, and applications (equation solver, signal generator) are indicated. In conclusion, a general analysis of sinusoidal currents in the galvonomagnetic generator is given. Orig. art. has: 5 figures, 43 formulas, and 1 table.

ASSOCIATION: none

SUBMITTED: 22Feb64

Card 1/1   ENCL: 00   SUB CODE: EC
                           NO REF SOV: 003   OTHER: 001

L 00811-66   EWT(1)/EWA(h)   ESD

ACCESSION NR: AP5015912   UR/0103/65/026/006/1112/1114
                                                           621.373.9:538.63

AUTHOR: Bogomolov, V. N. (Leningrad); Geravzade, A. P. (Leningrad); Pogodin, V. I.
(Leningrad); Fomenko, Ye. P. (Leningrad)

TITLE: Galvanomagnetic oscillator

SOURCE: Avtomatika i telemekhanika, v. 26, no. 6, 1965, 1112-1114

TOPIC TAGS: galvanomagnetic oscillator

ABSTRACT: An experimental galvanomagnetic oscillator with an InSb magnetoresistor
is briefly described. The oscillator developed 4.4 w continuously or 10 w for a
short time at 28 cps and water cooling (was immersed in water); the efficiency was
15% at 10 w. It is pointed out that the existing theory correctly describes the
actual oscillator behavior: the discrepancy between the theoretical and experi-
mental oscillatory currents is only 10%. A method of measuring the oscillator
characteristics is given. Orig. art. has: 3 figures, 3 formulas, and 1 table.

ASSOCIATION: none

SUBMITTED: 22Feb64   ENCL: 00   SUB CODE: EC

Card 1/1   NO REF SOV: 002   OTHER: 001

L 9650-66   EWT(1)/EWP(e)/EWT(m)/EEC(k)-2/T/EWA(h)   IJP(c)   AT, WH
ACC NR: AP5025375   SOURCE CODE: UR/0181/65/007/010/2978/2989

AUTHOR: Bir, G. L.; Bogomolov, V. N.; Krivitskiy, Ye. V.; Sulyatitskaya, T. Ye.

ORG: Institute of Semiconductors AN SSSR, Leningrad (Institut poluprovodnikov AN SSSR)

TITLE: Piezoresistance of partially reduced rutile at temperatures of 78-500°K

SOURCE: Fizika tverdogo tela, v. 7, no. 10, 1965, 2978-2989

TOPIC TAGS: titanium dioxide, pressure effect, piezoelectric effect, electric conductivity, semiconductor research, semiconductor theory

ABSTRACT: Piezoresistance tensors of rutile are measured from 78 to 500°K for various concentrations of current carriers. The experimental equipment and procedure and the shape of the specimens are described in detail. A phenomenological description is given for the effect of piezoresistance in rutile. The piezoresistance tensor is described by seven independent constants. Temperature relationships are derived for all components of the piezoresistance tensor. Data on conductance anisotropy and the elastic constants of rutile are used as a basis for calculating the seven coefficients of elastoconductivity in rutile as functions of temperature. The effect of hydrostatic pressure on the electrical conductivity of rutile at room temperature is investigated. Data on hydrostatic stress agree well with measurements of uniaxial de-

Card 1/2

L 9650-66

ACC NR: AP5025375

formation. The values and temperature behavior of the coefficients of elastoconduc-
tivity show that the minimum of the conduction band in this material is on the k_z
axis and also indicate that the band is not degenerate. High volumetric coefficients
of piezoresistance and the anomalous behavior of these coefficients with respect to
temperature are characteristic features of piezoresistance effects in rutile. The
volumetric coefficients of elastoconductivity increase approximately as T^{-1} in the
high temperature region, reaching a maximum of very close to 80 at a temperature of
very nearly 100°K. These coefficients decrease slowly with a further reduction in
temperature. Two models are proposed for explaining these high volumetric coeffi-
cients of piezoresistance: the first is based on the assumption that there are two
conduction bands and that the donor impurities are completely ionized, while the se-
cond assumes an incompletely ionized impurity. Both of these models agree partially
with the experimental data available for rutile, but neither of them gives a satis-
factory explanation of all phenomena in itself. It is possible that a two-band model
combined with incomplete impurity ionization may give a better approximation. The
authors take this opportunity to thank V. P. Zhuze for the support he gave to this
work and for all his consultation during its completion. As in our previous papers,
we used rutile single crystals produced in A. S. Babchuk's laboratory and oriented
by T. B. Zhukova and A. I. Zaslavskiy to whom we also extend our gratitude. Orig.
art. has: 6 figures, 19 formulas.

SUB CODE: 20/   SUBM DATE: 26Apr65/   ORIG REF: 006/   OTH REF: 014

Card 2/2

ACC NR: AP6026689

SOURCE CODE: UR/0181/66/008/008/2390/2394

AUTHOR: Bogomolov, V. N.; Zhuze, V. P.

ORG: Institute of Semiconductors, AN SSSR, Leningrad (Institut poluprovodnikov AN SSSR)

TITLE: The mechanism of conductivity in rutile

SOURCE: Fizika tverdogo tela, v. 8, no. 8, 1966, 2390-2394

TOPIC TAGS: titanium oxide, rutile, Hall constant, Hall effect

ABSTRACT: Sets of data on the anisotropy of electrical conductivity, Hall constant, and piezoresistance of rutile, obtained by various authors, are analyzed as functions of temperature and current carrier concentrations. The presently-accepted zone scheme of rutile is inadequate to explain the aggregate of experimental data over a broad temperature range. If it is assumed that the current carrier concentration is temperature independent above ~100°K in the samples investigated, the electrical conductivity and Hall effect data may be described by the equations of the small-radius polaron theory. A qualitative estimate of a number of parameters from the theory also yields reasonable values. The authors thank M. I. Klinger and Yu. A. Firsov for valuable discussions. Orig. art. has: 2 figures.

SUB CODE: 20/   SUBM DATE: 13Jan66/   ORIG REF: 006/   OTH REF: 007

Card 1/1

ACC NR: AP7005869   SOURCE CODE: UR/0181/66/003/012/3659/3660

AUTHOR: Bogomolov, V. N.

ORG: Institute of Semiconductors, AN SSSR, Leningrad (Institut poluprovodnikov AN SSSR)

TITLE: Influence of hydrostatic compression on the electric conductivity and the Hall effect in rutile

SOURCE: Fizika tverdogo tela, v. 8, no. 12, 1966, 3659-3660

TOPIC TAGS: titanium oxide, electric conductivity, pressure effect, Hall effect, polaron, Brillouin zone

ABSTRACT: This is a continuation of earlier work where the experimental data on the electric conductivity and Hall effect in rutile were interpreted from the point of view of the theory of small-radius polarons (FTT v. 8, 2390, 1966). In the present paper it is shown that a different explanation is proposed for the behaviro of the Hall constant as a function of the temperature. It is assumed that the conductivity of the rutile has the usual band character, but at high temperatures the band is more complicated and consists of four ellipsoids in the Brillouin zone. Since this interpretation is in poor agreement with the experimental data, the author has investigated the influence of hydrostatic compression on the electric conductivity and Hall effect of rutile to check on the assumption, resulting rom experimental data published earlier (FTT v. 7, 2978, 1965), that the conduction band in rutile is simple if the con-

Card 1/2

ACC NR: AP7005369

ductivity has a band character and the piezoresistance is concentration dependent.
The tests were made at room temperature at pressures up to 13 tons per square centi-
meter. While the relative change in the electric resistivity exhibited a linear
pressure dependence, the Hall constant remained independent of the hydrostatic pres-
sure. The results favor the assumption that the conductivity of rutile has a polaron
character. The piezoresistance behavior favors the assumption of a simple band. The
experiments also lead to the conclusion that in partially reduced rutile all the
donors are apparently ionized even at room temperature. The author thanks V. P.
Zhuze and M. I. Klinger for useful discussions and A. A. Averkin for providing the
high-pressure equipment. Orig. art. has: 1 figure.

SUB CODE: 20/   SUBM DATE: 20Jun66/   ORIG REF: 009/   OTH REF: 004

Card 2/2

ACCESSION NR: AT4013985   S/3070/63/000/000/0159/0161

AUTHOR: Bogomolov, V. N.

TITLE: Instrument for measuring the Hall effect

SOURCE: Novy*ye mashiny*i pribory* dlya ispy*taniya metallov. Sbornik statey. Moscow, Metallurgizdat, 1963, 159-161

TOPIC TAGS: Hall effect, Hall effect measurement, Hall effect tester sensitivity, semiconductor testing, metal testing

ABSTRACT: The author describes equipment for measuring the Hall effect with the aid of the 1 and H method (see Figs. 1 and 2 in the Enclosure). Difficulties and interferences limiting equipment sensitivity were eliminated by simplification of components. The minimum measurable mobility is $\sim 10^{-3}$ cm^2/V·sec. The equipment includes a narrow band amplifier and can be used to measure the Hall effect in metals or semiconductors with a specific resistance up to 10^5 ohms. Signal registration on a recording potentiometer makes it possible to obtain nearly continuous curves for temperature functions of the Hall effect, while measurements over the range -100 to +500C consume 1-2 hours. A detailed wiring diagram is included. Orig. art. has: 3 graphs.

Card   1/12

ACCESSION NR: AT4013985

ASSOCIATION: Institut poluprovodnikov AN SSSR (Semiconductor Institute)

SUBMITTED: 00   DATE ACQ: 20Feb64   ENCL: 02

SUB CODE: ML, SD   NO REF SOV: 001   OTHER: 000

Card   2/#2

BOGOMOLOV, V.O.

Task of automatization of powerful hydroelectric power stations in connection
with the great construction projects of communism
Visnyk AN URSR 22 no. 11, 1950

Bogomolov V C

BOGOMOLOV,V.O.; BENIE,V.L.

Regulator of the deflection angle in hydraulic turbine vanes
according to pressure. Visnyk AN URSR 26 no.7:47 Jl'55.
(Hydraulic turbines)   (MLRA 8:10)

ALEKSEYEV, V.M.; BERDYSHEV, V.D.; BOGOMOLOV, V.S.

Electrometric method of measuring the pressure gradient in determining
the water permeability of soils. Pochvovedenie no.6:99-100 Je '60.
(MIRA 13:11)

1. Voronezhskiy inzhenerno-stroitel'nyy institut.
(Soil moisture)

ACC NR: AP7005662   (A, N)   SOURCE CODE: UR/0413/67/000/002/0118/0119

INVENTOR: Tsapko, N. Z.; Moroz, D. A.; Smoliy, Y. G.; Bogomolov, Y. S.; Nesterov, P. G.; Sergeyev, V. P.

ORG: None

TITLE: An automatic printer. Class 42, No. 190671 (announced by the Scientific Research Institute of Control Computers (Nauchno-issledovatel'skiy institut upravlyayushchikh vychislitel'nykh mashin)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1967, 118-119

TOPIC TAGS: printing machinery, automatic machine

ABSTRACT: This Author's Certificate introduces an automatic printer which contains a register wheel and a colored ribbon. To increase printout capacity and provide a larger number of symbols, a two-register (double-row) spring loaded wheel is used with a two-color printing ribbon which has a guide lever. Reciprocating motion of the wheel and the ribbon guide lever along the shaft of the wheel is produced by interaction between cams set fast on the shaft and rollers located in the lower section of frames which are fixed in two positions by electromagnets controlled by pulse transmitters for switching the register and ribbon color.

Card 1/2   UDC: 681.61:681.142

ACC NR: AP7005662
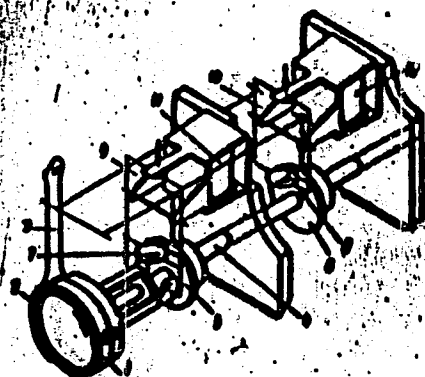
1—register wheel; 2—ribbon; 3—lever; 4—shaft; 5 and 6—cams;
7 and 8—rollers; 9 and 10—frames; 11 and 12—electromagnets

SUB CODE: 09, 14/ SUBM DATE: 14May65

Card 2/2

BOGOMOLOV, V.S., inzh.

Effect of condition parameters and the type of working media
on turbine stage efficiency. Sudostroenie 28 no.4:20-25 Ap
'62.

(MIRA 15:4)

(Marine turbines)

36.2120

S/229/62/000/004/002/003
I006/I206

AUTHOR: Bogomolov, V.S., Engineer

TITLE: On influence of regime parameters and type of
              working fluid on turbine stage efficiency

PERIODICAL: Sudostroyeniye, no.4, 1962, 20-25

TEXT: A comparison of performance of two model turbine
stages with air as working fluid and a geometrically similar pro-
totype with superheated steam as working fluid is drawn with the
aim of establishing the permissible range of M, Re and k (specific
heat ratio) for model testing. A Mach number influence is noted
for M $>$ 0.6. The Reynolds number influences stage efficiency at
Re $\leq (3.0 - 3.5) \times 10^5$. Stage efficiency is uninfluenced by the
value of k as long as M   M$_{cr}$. There are 4 figures and 5 tables.

Card 1/1

BOGOMOLOV, V.S., inzh. (g. Novouzensk); PAVLIKOVA, V.M., uchitel'nitsa;
ZHELTUKHIN, D.V., dotsent; TSLAF, N.Z., uchitel'

Editor's mail. Khim.v shkole 18 no.2:82-83 Mr-Ap '63.
                                        (MIRA 16:4)
1. Srednyaya shkola No.39, Bryansk (for Pavlikova).
2. Lesotekhnicheskaya akademiya, Leningrad (for Zheltukhin).
3. Srednyaya shkola No.5, Moskva (for TSlaf).
        (Chemistry--Experiments)   (Building materials)

BOGOMOLOV, V.S., inzh. (Novouzensk)

From the practices in basin snow-water irrigation in Saratov
Province. Gidr. i mel. 15 no.11:41-45 N '63.   (MIRA 17:1)

KALININ, Georgiy Yevgen'yevich; SULOYEV, A.V., kand. tekhn. nauk
retsenzen ; ASTRATOV, N.A., kand. tekhn. nauk; BOGOMOLOV,
V.S., kand. tekhn. nauk, nauchn. red.; VARKOVETSKAYA, A.I.,
red.

[Model tests of marine turbines and engines] Model'nye ispy-
taniia sudovykh turbin i mashin. Leningrad, Sudostroenie,
1965. 193 p.   (MIRA 18:11)

BOGOMOLOV, V.V.

Dimensional tolerances for forgings and methods of determining the
dimension of blanks for flashless forging. Kuz.-shtam. proizv. 5 no.
12:14-15 D '63.   (MIRA 17:1)

BOGOMOLOV, Ye.

Heterodyne resonance indicator as an aid for rural radio stations.
IUn.tekh. 5 no.5:29-32 My '61.   (MIRA 14:5)
        (Radio, Short wave--Apparatus and supplies)

BOGOMOLOV, Ye.

      Radio club of a summer camp. Radio no.6:6-7 Je '63.

                                       (MIRA 16:7)

          (Radio clubs)

Bogomolov E.G.

USSR/ Nuclear Physics - Proton dispersion

Card 1/1   Pub. 22 - 22-63

Authors   : Selector , Ya.M.; Nikitin, S. Ya.; Bogomolov, E.G.; and Zombkovskiy, S.M.

Title   : Dispersion of protons with protons of 460-560-660 Mev of energy

Periodical   : Dok. AN SSSR 99/6, 967-970, Dec 21, 1954

Abstract   : Experiments were conducted with proton dispersion by protons of 460, 560, and 660 Mev of energy. The phasetron of the Institute of Nuclear Problems was used as a proton generator. Proportional counters and a plain counter were used as proton registering devices. Paraffine and carbon discs were used as a diffuser and a carbon controlling diffuser, respectively. The experimental set-up and the equipment is described. The results obtained are presented in the form of graphs. Eight references; 1-USSR (1950-1954). Diagrams; graph.

Institution: ......

Presented by: Academician A.I. Alikhanov, November 4, 1954

Scattering of protons by protons of 400-650 m.e.v. en-
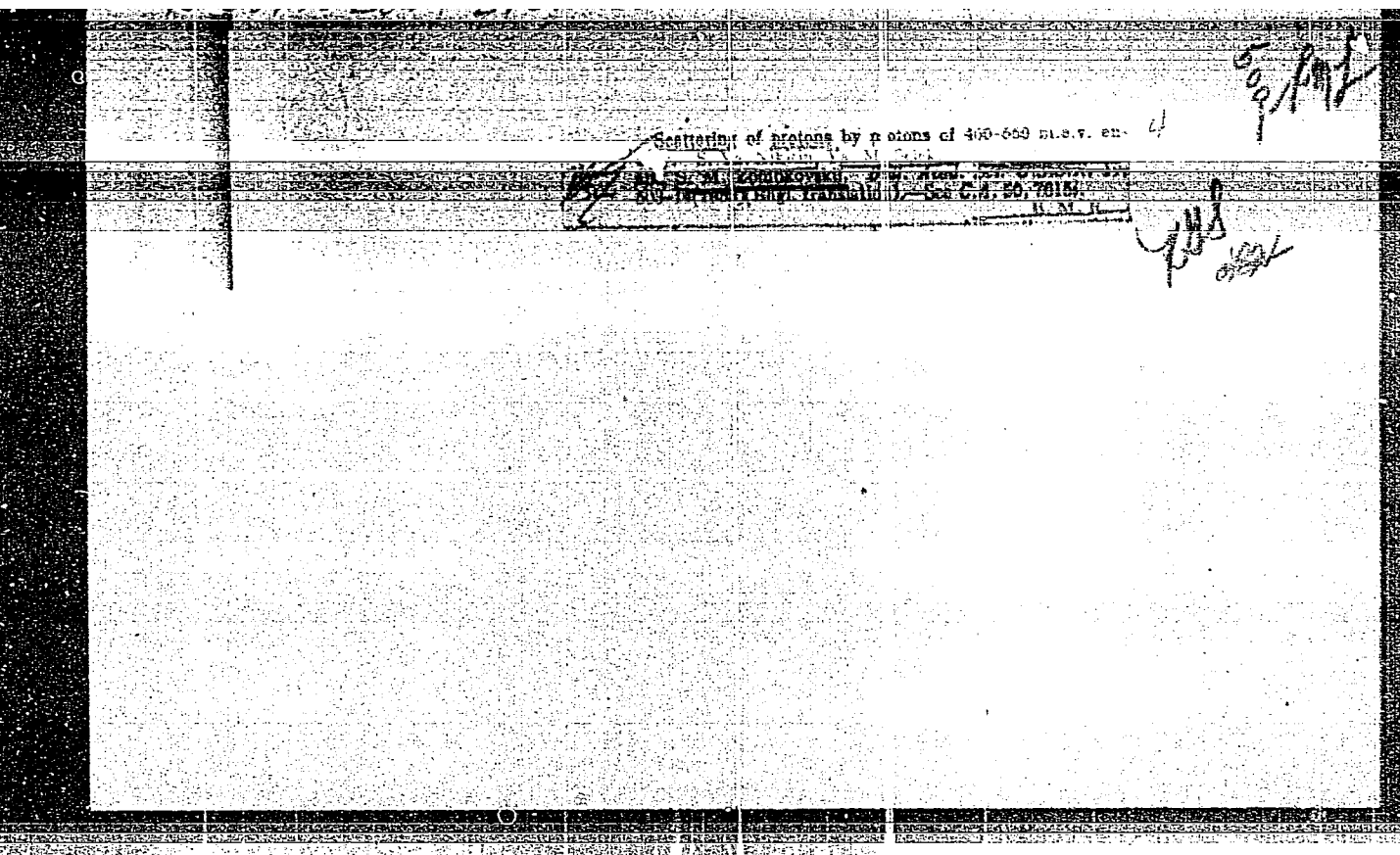
BOGOMOLOV, Ye. G.

4932
SCATTERING OF PROTONS BY PROTONS AT 460 TO 660
MEV. S. Ya. Nikitin, Ya. M. Selector, E. G. Bogomolov,
and B. M. Zombkovskii. Izvest. Akad. Nauk S.S.S.R. Ser.
Fiz. 19, 681-73(1955) Sept.-O ... (In Russian)
        Investigations of p-p scattering were carried out with the
synchrocyclotron of the Inst. of Nuclear Problems. Protons
of 460 and 660 Mev were obtained directly from the accel-
erator; protons of 560 Mev were obtained by retarding the
660-Mev protons in the graphite filters. (R.V.J.)

BOGOMOLOV, E. G.

Mooi-em

1072

THE SCATTERING OF PROTONS WITH ENERGIES 450-
660 MEV ON PROTONS. S. Ya Nikitin, Ya M. Selector,
E. G. Bogomolov, and S. M. Zombkouskii (Academy of
Sciences of the U.S.S.R., Moscow). Nuovo cimento (10)
2, 1269-81(1955) Dec. (in English)

(p-p) scattering is studied with protons obtained from the
synchrocyclotron of the Institute for Nuclear Problems of
the Academy of Sciences of the USSR. The scattering cross
section and the angular distribution have been measured

In the interval of energies from 450 up to 660 Mev. The
results show that practically up to proton energies of 450
Mev the scattering cross section is isotropic, in the interval
550 to 660 Mev it is markedly anisotropic. A discussion of
the results obtained is given. (auth)

Bogomolov, E. G.

BOGOMOLOV, YE.G., ZOMBKOVSKIY, S.M., NIKITIN, S.Y. and SELEKTOR, Y.M.

Elastic small angle scattering of 660 MeV protons
by protons (II/59)

CERN-Symposium on High Energy Accelerators and Pion
Physics.

Geneva, 11-23 June 56
In Branch #5

BOGOMOLOV, E.G., ZOMBKOVSKIY, S.M., NIKITIN, S.Ya., SELEKTOR, Ya.M.

"Elastic Scattering of Protons with an Energy of 660 MeV by Protons at Small Angles," paper presented at CERN Symposium, 1956, appearing in Nuclear Instruments, No1 1, pp. 21-30, 1957

L 20993-66   EWT(1)/EWP(m)/EWT(m)/EWA(d)/EWP(v)/T-2/EWP(k)/ETC(m)-6/EWA(1)   IJP(c)

ACCESSION NR: AP5020637 EM

UR/0147/65/000/003/0059/0070

533.601.1:629.194.32:62.135

AUTHOR: Bogomolov, Ye. N.

TITLE: Radial gas flow in the clearance between rotating disks

SOURCE: IVUZ. Aviatsionnaya tekhnika, no. 3, 1965, 59-70

TOPIC TAGS: gas turbine, turbine cooling, turbine design, turbine rotor

ABSTRACT: The problem of designing cooling-air supply systems for gas-turbine engines, in which the air for the turbine-rotor cooling is bled from the intermediate compressor stage and fed to the rotor through a duct in the shaft, is studied. An approximate solution of the complex radial-flow problem in the region between the compressor disks was obtained using general gas-dynamic equations. It is assumed in the calculations that: a) friction forces may be ignored in this region; b) the values of the gas parameters along the width of the clearance are constant for a given radius and their basic change occurs in the thin-boundary layer, i.e., they are independent of the z-coordinate; and c) the connection of the thermodynamic parameters of the state of the gas in the clearance may be defined by an isoentropic equation. The results of the study indicate that in order to provide sufficient flow of cooling

Card 1/2

I. 20993-66

ACCESSION NR: AP5020637

air between the rotating disks from their periphery to the center, the disks must
have radial blades or be equipped with special air intakes. Orig. art. has: 12 for-
mulas and 10 figures.   [AC]

ASSOCIATION: none

SUBMITTED: 04May64   ENCL: 00   SUB CODE: PR, ME

NO REF SOV: 003   OTHER: 001   ATD PRESS: 4025

Card 2/2

BOGOMOLOV, Ye.N.

Investigating the effect of an air inlet into the turbine flow area for cooling its disks and body on the efficiency of a gas turbine. Izv.vys.ucheb.zav.; av.tekh. 7 no. 1:85-95 '64.
(MIRA 17:5)

ACCESSION NR: AP4033044   S/0147/64/000/001/0085/0095

AUTHOR: Bogomolov, Ye. N.

TITLE: The effect on gas turbine efficiency of the introduction into its flow sec-
tion of air which cools the disks and housing of the turbine

SOURCE: IVUZ. Aviatsionnaya tekhnika, no. 1, 1964, 85-95

TOPIC TAGS: gas turbine, turbine efficiency, turbine cooling,
turbine blade cooling

ABSTRACT: The author notes that in modern aviation gas turbines the rotor disks are
normally cooled by cold air taken from the compressor, with cooling of the turbine
frame accomplished by blowing secondary air through its internal cavities. In this case,
the associated turbine power loss can easily be calculated if the air from the cooling
system is liberated outside the turbine. In actual practice, however, the cooling system
terminates in an outlet to the flow section of the turbine. In this case, the problem
of determining the effective turbine power losses is made considerably more complicated,
since the cooling effect is achieved not only by the expenditure of energy for the com-
pression and pumping of the cooling air, but also by a change in the parameters of the
gas within the turbine as a result of the mixing of the cooling air with the basic

Card   1/3

ACCESSION NR: AP4033044

flow. In this article the author attempts an approximate theoretical investigation of the gas flow in a turbine with cooling air introduced into the turbine from the direction of the boundary surface of the flow section and analyzes the effect of turbine air cooling on its efficiency on the basis of the formulas derived. In this connection, the author also considers the losses due to the formation of a dead or "stagnant" zone between the wall of the flow section and the internal boundary of the stream of cooling air. The flow contour of this dead or "stagnant" zone is analyzed. In his treatment of the effect of the introduction of cooling air on the efficiency of a turbine stage, the author advances the idea that, in a general case, this effect can be estimated by the magnitude of the ratio of the power developed by a turbine stage with cooling to the power which might be obtained in a stage without cooling but having a degree of reaction and geometrical and aerodynamic turbine cascade characteristics identical to those of the cooled stage and operating with the same output gas parameters, adiabatic gradient, and rotor revolutions as the stage with air cooling. It is shown that control of the velocity vector of the cold air stream introduced into the flow section is a rather effective means of increasing the efficiency of a stage with air intake into the basic gas flow for cooling purposes. Moreover, it is demonstrated that the direction of the air flow has a particularly marked effect on efficiency with the cooling air fed into the axial clearance between the nozzle and the rotor. Orig. art. has: 5 figures and 16 formulas.

Card 2/3

ACCESSION NR: AP4033044

ASSOCIATION: none

SUBMITTED: 01Apr63   AID PRESS: 3060   ENCL: 00

SUB CODE: PR,   NO REF SOV: 002   OTHER: 000

Card 3/3

BOGOMOLOV, Ye.N.

Centrifugal gas flow in a gap between rotating disks. Izv.
vys. ucheb. zav.; av. tekh. 7 no.3:59-70 '65.

(MIRA 18:9)

L 29841-66   EWT(d)/EWT(m)/EWP(w)/EWP(f)/EWP(v)/T-2/EWP(k)   IJP(c)   WW/EM

ACC NR: AP6017827   SOURCE CODE: UR/0147/66/000/002/0049/0058

AUTHOR: Bogomolov, Ye. N.

ORG: none

TITLE: Effect of the discharge of blade cooling air into flow passages on the gas turbine efficiency

SOURCE: IVUZ. Aviatsionnaya tekhnika, no. 2, 1966, 49-58

TOPIC TAGS: gas turbine, gas turbine efficiency, blade cooling, air cooled turbine engine, turbine blade, air flow, gas flow, turbine cooling

ABSTRACT: An approximate theoretical investigation was made of the effect on the efficiency of a gas turbine stage of the discharge of blade cooling air from the rotor or nozzle blades into the main gas stream. The investigation, based on general turbomachinery and gas dynamic theories, consisted in comparing the efficiencies of geometrically and aerodynamically identical turbine stages with and without the cooling air discharge. In addition, an analysis was made of the process of mixing the cooling air with the gas stream. The obtained results indicate that at high air-to-gas pressure ratios, the discharge of air from the nozzle blades can have a positive effect on turbine efficiency. A formula is derived for calculating the power generated as a result of the cooling air discharge. Orig. art. has: 7 figures and 21 formulas.   [AS]

SUB CODE: 21/ SUBM DATE: 13Oct65/ ORIG REF: 002/ OTH REF: 002/ ATD PRESS:5013

Card 1/1   UDC: 621.438

KAL'YANOV, F.V., inzh.; BOGOMOLOV, Yu.A., inzh.

Tractor operations meter for determining the engineering and economic indices of tractor-driven units. Trakt. i sel'khozmash. no.7:14-15 Jl '65.
(MIRA 18:7)

1. Gosudarstvennyy soyuznyy nauchno-issledovatel'skiy traktornyy institut (for Kal'yanov). 2. Podmoskovnaya nauchno-issledovatel'skaya ispytatel'naya stantsiya Gosudarstvennogo soyuznogo nauchno-issledovatel'skogo traktornogo instituta (for Bogomolov).

L 44150-66   EWT(d)/EWT(m)/EWP(f)/T-2

ACC NR: AP6030256	SOURCE CODE: UR/0147/66/000/003/0089/0097

AUTHOR: Bogomolov, Ye. N.

ORG: none

TITLE: Applied theory of the Laval turbine

SOURCE: IVUZ. Aviatsionnaya tekhnika, no. 3, 1966, 89-97

TOPIC TAGS: turbojet engine, Laval turbine, jet starter, jet starter efficiency

ABSTRACT: A theoretical analysis is presented of the effect of various geometric parameters on the energy conversion efficiency of a jet-type starting device used for small size turbojet engines. The jet starter, operating on the principle of the Laval turbine, impinges an air jet on the rotor blades of the main turbine of the engine during engine start-up. The analysis shows that the jet starter efficiency is greatly affected by the jet-nozzle angle of attack. The turbine blade curvature produces an additional impulse, thus contributing to an increase in starter efficiency. Formulas are derived for calculating the additional and total efficiency of the starter. Orig. art. has: 14 formulas and 7 figures.   [AS]

SUB CODE: 21/ SUBM DATE: 13Oct65/ ORIG REF: 003/ OTH REF: 001/ ATD PRESS: 5072

Card 1/1   hs   UDC: 621.438

BOGOMOLOV, Yuriy Anatol'yevich; KOKOSOV, B.V., redaktor; MYASNIKOVA,T.F., tekhnicheskiy redaktor

[Destructive living organisms and methods of controlling them]
Zhivye organizmy - razrushiteli i zashchita ot nikh. Moskva, Voen.
izd-vo Ministerstva obor. SSSR, 1956. 149 p.   (MIRA 10:2)
        (Wood-decaying fungi)   (Materials--Deterioration)
        (Pests)

BOGOMOLOV, Yu. A

How to destroy tree-boring insects. Tekh. mol.24 no.3:39 Mr '56.
(MIRA 9:7)
1.Chlen Vsesoyuznogo khimicheskogo obshchestva imeni Mendeleyeva.
(Trees--Diseases and pests)

A.
BOGOMOLOV, Yu.,inzh.

Using "liquid smoke" in building. Sel'.stroi. 13 no.11:29
N '58.   (MIRA 11:12)
(Wood preservatives)

BOGOMOLOV, Yu.A.

[Simple chemicals against the diseases and pests of wood and
plants] Prostye iadokhimikaty protiv vreditelei drevesiny
i rastenii. Moskva, Izd-vo "Moskovskaia pravda" 1959. 78 p.
(MIRA 12:12)

(Insecticides)   (Fungicides)

BOGOMOLOV, Yu.G.

Hydrogeothermal conditions of separate regions of the Russian and Siberian Platforms. Dokl. AN BSSR 8 no.11:752-756 N '64.

(MIRA 18:3)

1. Institut geologicheskikh nauk AN SSSR.

ACC NR: AP7001900   (N)   SOURCE CODE: UR/0020/66/171/004/0944/0947

AUTHOR: Sobolevskaya, V. N.; Makarenko, F. A.; Bogomolov, Yu. G.

ORG: Geology Institute, Academy of Sciences, SSSR (Geologicheskiy institut Akademii nauk SSSR)

TITLE: Use of heat parameters as one of the methods for determining the boundaries in tectonic districting

SOURCE: AN SSSR. Doklady, v. 171, no. 4, 1966, 944-947

TOPIC TAGS: geology, physical geology, geologic survey, heat flux pickup, tectonic

ABSTRACT: A large amount of existing data on temperature measurements of the Earth's mantle and base on the territory of the Soviet Union has been, within the last few years, organized and generalized by the Geothermy and Geochemistry Laboratory for Deep Zones, Geology Institute, Academy of Sciences SSSR (Laboratoriya geotermii i gidrodinamiki glubokikh zon Geologicheskogo instituta Akademii nauk SSSR). A laboratory map was drawn which shows the distribution of geothermal fields in the Soviet Union; from the map, some generalizations can be made regarding changes of temperature fields and their relationship to different structures of the Earth's crust. The obtained results showed that changes of the temperature field in the Paleozoic and Bay'kal bases of the Western Siberian plateau and in the Dorfic layer of the Siberian plateau clearly show, in a narrow region, where these different

Card 1/2   UDC: 551.24:551.23

ACC NR: AP7001900

layers of the Earth's crust are connected. It can be seen that isotherms 25 and 50°, at the boundary of the Siberian plateau lie significantly lower than at the bound- aries of the Bay'kal and the Paleozoic base of Western Siberia. Paper presented by Academician A. L. Yanshin 26 July 1966. Orig. art. has: 1 table and 2 figures.

SUB CODE: 08/ SUBM DATE: 13Jul66/ ORIG REF: 009/ OTH REF: 002

2/2

STUKACH, A. G.; LEKARENKO, Ye. M. [deceased]; ZYKOV, Yu. S.;
        POKROVSKAYA, G. N.; BOGOMOLOV, Yu. I.; CHERNYKH, K.P.

Increase in width and the coefficient friction during
the shape rolling of nonferrous metals and alloys.
TSvet. met. 36 no. 11:65-69 N '63.   (MIRA 17:1)

S/191/62/000/011/013/019
B101/B186

AUTHORS: Sedokov, L. S., Bogomolov, Yu. S.

TITLE: Determination of the tensile strength of brittle plastics
             by compression of cylindrical specimens along the radius

PERIODICAL: Plasticheskiye massy; no. 11, 1962, 57-59

TEXT: In view of the difficulties attending direct determination of the
tensile strength for brittle material, it is suggested that the method
developed for cast iron by A. V. Verkhovskiy, V. V. Romanovskaya (Zav.
lab., no. 11 (1951)) and L. M. Sedokov (Standartizatsiya, no. 1 (1961))
should be also for testing brittle plastics. The cylindrical specimen is
crushed along its radius between the plates of a press. $\sigma = AP/dl$, where
P is the maximum force measured by strain gages, kg; d is the specimen
diameter, cm; l is the specimen length, cm; the coefficient A was 0.7 for
·the plastics investigated, i.e. near the value of the cosine of the angle
of the natural wedges formed in crushing the specimen. The K-21-22
(K-21-22), K-17-2 (K-17-2), K-18-2 (K-18-2), K-20-2 (K-20-2), and
K-18-56 (K-18-56) plastics were tested by this method. For K-21-22,

Card 1/2

Determination of the tensile ...

S/191/62/000/011/013/019
B101/B186

K-17-2, and K-20-2, good agreement was found with the data obtained by
the direct method. For the two other plastics, the values determined by
compression were too low, which calls for further investigation. The
root-mean-square deviation by the new method was smaller than in the
direct determination of the tensile strength. Therefore the new method
is recommended for use in works tests. There are 2 figures and 1 table.

Card 2/2

AUTHOR: Bogomolov, Yu. V.   57-2-7/32

TITLE: On the Effective Field in Crystals (Ob effektivnom pole v kristallakh).

PERIODICAL: Zhurnal Tekhnicheskoy Fiziki, 1958, Vol. 28, Nr 1, pp. 250-251 (USSR).

ABSTRACT: Any crystal consisting of neutral spherical polarized atoms is investiga-
               ted here. Skanavi (reference 1) suggested an equation (1) for the calcu-
               lation of the static dielectric constant of such a crystal. It is shown
               that only the interaction of the z-components of the induced dipole-mo-
               ments (the outer field lies in the direction of the z-axis which coinci-
               des with one of the principal axis) was taken into account in this equa-
               tion. In the general case, however, the effective field differs from the
               outer field also with regard to direction. It is shown here a complete
               how a complete solution of the problem can be attained. A system of equa-
               tions for the effective fields with consideration of the transverse com-
               ponents is written down and after the solution of this system the problem
               is reduced to that already treated by Skanavi. The above-mentioned equa-
               tion by Skanavi (1) retains its outward shape also in this case, but
               z^2_{ij} must be replaced by $\mathfrak{G}_{ij}$. z^2_{ij} are the structure-coefficients of the

Card 1/2   internal field. These $\mathfrak{G}_{ij}$ may be expressed by certain determinants of

On the Effective Field in Crystals.   57-2-7/32

> 2m-th order. It is shown that they are physical characteristics of the internal field.
> There are 2 references, 1 Soviet and 1 U.S.

ASSOCIATION: Institute of General and Inorganic Chemistry imeni N. S. Kurnakov, Moscow (Institut obshchey i neorganicheskoy khimii imeni N. S. Kurnakova, Moskva).

SUBMITTED: February 4, 1957.

AVAILABLE: Library of Congress

1. Crystals-Mathematical analysis

Card 2/2

BOGOMOLOV, Yu.V.

Effective fields in crystals. Fiz. tver. tela 2 no.2:297-301
F '60.
                                                (MIRA 14:8)

1. Institut obshchey i neorganicheskoy khimii AN SSSR imeni
N.S. Kurnakova, Moskva.
                    (Optical crystallography)

BOGOMOLOV, Yu.V.

Evaluation of the inversion of quantum paramagnetic amplifier levels. Radiotekh. i elektron. 7 no.11:1953-1955 N '62.

(MIRA 15:11)

(Masers)

BOGOMOLOV, Yu.V.

Spin-lattice relaxation in ruby. Fiz. tver. tela 4
no.11:3286-3287 N '62.
                                              (MIRA 15:12)
        (Paramagnetic resonance and relaxation)
                        (Rubies)

ACC NR: AP6022071   SOURCE CODE: UR/0141/66/009/003/0462/0468

AUTHOR: Bogomolov, Yu. V.

ORG: Radiotechnical Institute, AN SSSR (Radiotekhnicheskiy institut AN SSSR)

TITLE: Penetration of electromagnetic field into magnetoactive plasma

SOURCE: IVUZ. Radiofizika, v. 9, no. 3, 1966, 462-468

TOPIC TAGS: electromagnetic field, magnetoactive plasma

ABSTRACT: By using the Dnestrovskiy and Kostomarov method (Vestnik MGU, nos. 2, 3, 1963), the surface impedance of a magnetoactive plasma is calculated (integral formulas only) for ordinary and extraordinary electromagnetic waves. The constant magnetic field whose pressure is stronger than the gas pressure is oriented along the plasma surface; the β-quantity is assumed to be small. The plasma boundary is simulated by the condition of specular reflection of electrons.

Card 1/2   UDC: 621.371.182

ACC NR: AP6022071

The absorption for both ordinary and extraordinary waves depends on frequency in a manner similar to that in the case of degenerate plasma (M. C. Jones et al., Proc. Roy. Soc., v. 278, 256, 1964). With known surface impedance, it is easy to calculate the depth of magnetic-field penetration. The depth of electric-field penetration is c/ω_0. "The author wishes to thank M. L. Levin for his attention to and interest in the work." Orig. art. has: 37 formulas.

SUB CODE: 20 / SUBM DATE: 28Jul65 / ORIG REF: 009 / OTH REF: 001

Card 2/2

BOGOMOLOVA, A., studentka III kursa.

Several Rudista from Central Asia. Sbor.stud.rab. SAGU no.8:
29-32 '54.   (MLRA 9:5)
              (Soviet Central Asia--Lamellibranchiata, Fossil)

BOGOMOLOVA, A. F.

BOGOMOLOVA, A. F.--"Investigation of Capillary-Retained Petroleum in a Model
Porous Medium." Acad Sci USSR. Inst of Petroleum. Moscow, 1955.
(Dissertation for the Degree of Candidate in Technical Science)

SO Knizhanay letopis'
No 2, 1956

BOGOMOLOVA, A.F.; KOCHESHKOV, A.A.; KRYLOV, A.P.; KUSAKOV, M.M.

Experimental study of oil recovery in waterflood operations in the presence of free gas. Trudy VNII no.25:73-79 '59.

(MIRA 15:4)

1. IGRGI AN SSSR.

(Oil reservoir engineering)

BOGOMOLOVA, A.F.; KUSAKOV, M.M.

Studying capillary petroleum in a model porous medium. Trudy Inst. geol. i razrab. gor. iskop. 2:81-94 '60. (MIRA 14:5)
(Petroleum) (Capillarity)

BOGOMOLOVA, A.F. (Moskva); ORLOVA, N.A. (Moskva)

Quantitative characteristics of the structure of pore space. PMTF
no.4:77-81 Jl-Ag '61.   (MIRA 14:10)
                    (Porous materials)

BOGOMOLOVA, A.F.; KOCHESHKOV, A.A.; KRYLOV, A.P.

Process of connate water displacement in flooding oil. Neft.khoz.
39 no.8:36-42 Ag '61.   (MIRA 14:7)

(Oil field flooding)

BOGOMOLOVA, A.F.; ORLOVA, N.A.

Study of the structure of a porous area. Geol. nefti i gaza
5 no.12:46-49 D '61.   (MIRA 14:11)

1. Institut geologii i razrabotki goryuchkikh iskopayemykh AN
SSSR.
                    (Porosity)

BAN, Akosh; BOGOMOLOVA, Antonina Fedorovna; MAKSIMOV, Valeriy
Aleksandrovich; NIKOLAYEVSKIY, Viktor Nikolayevich;
OGANDZHANYANTS, Vladimir Grigor'yevich; RYZHIK, Viktor
Mikhaylovich; CHERNYY, I.A., red.; KAYESHKOVA, S.M., ved.
red.; POLOSINA, A.S., tekhn. red.

[Effect of the properties of rocks on the fluid flow in them]
Vliianie svoistv gornykh porod na dvizhenie v nikh zhidkosti.
[By]A.Ban i dr. Moskva, Gostoptekhizdat, 1962. 274 p.
(MIRA 16:2)

(Oil reservoir engineering)

BOGOMOLOVA, A.F.   (Moskva); GLAZOVA, V.M.   (Moskva)

Studying the mobility of residual water in a laminated porous
medium. Izv. AN SSSR Mekh. i mashinostr. no.4:180-184 Jl-Ag'64
                                                (MIRA 17:8)

BAKIROV, A.A.,doktor nauk, redaktor; VASSOYEVICH, N.B., doktor nauk;
    VEBER, V.V., doktor nauk; DVALI, M.F., doktor nauk; DOBRYANSKIY,
    A.V., doktor nauk; MAYMIN, Z.L., doktor nauk; MIRCHINK, M.V.,
    redaktor; ANDREYEV, P.F., kandidat nauk; AYZENSHTADT, G.Ye.,
    kandidat nauk; BOGOMOLOVA, A.I., kandidat nauk; GORSKAYA, A.I.,
    kandidat nauk;ZHABREV, D.V., kandidat nauk, redaktor; KAZMINA,
    T.A., kandidat nauk; MESSINEVA, M.A., kandidat nauk, PETROVA,
    Yu.N., kandidat nauk; RADCHENKO, O.A., kandidat nauk; TATARSKIY,
    V.T., kandidat nauk; TIKHIY, V.N., kandidat nauk; USPENSKIY, V.A.
    kandidat nauk, DYAKOV, B.F., redaktor; SAVINA, Z.A., redaktor;
    TROFIMOV, A.V., tekhnicheskiy redaktor.

[Origin of oil] Proiskhozhdenie nefti. Pod red. M.F.Mirchinka i
dr. Moskva, Gos.nauchno-tekhn.izd-vo neftianoi i gorno-toplivnoi
lit-ry, 1955. 483 p.   (MLRA 9:1)

1. Chlen korrespondent AN SSSR (for Mirchink)
      (Petroleum geology)

BOGOMOLOVA, A.M., studentka V kursa.

Paleoecological observations, Sbor.stud.rab. SAGU no.12:3-8 '55.
(Paleontology)

BOGOMOLOVA, A.M.; PAPERNAYA, F.A.

Work of the Auxiliary Council of the Sixth Minsk Polyclinic.
Zdrav.Belor. 3 no.10:53-54 O '57.   (MIRA 13:6)

1. Iz polikliniki No.6 3-y klinicheskoy bol'nitsy g. Minska
(glavnyy vrach A.I. Korkhov).
                    (MINSK--HOSPITALS--INSPECTION)

BOGOMOLOVA, A.M.; PAPERNAYA, F.A.

Hospitalization at home. Zdrav. Belor. 5 no.4:49-50 Ap '59.
(MIRA 12:7)

1. Iz polikliniki No. 6 III klinichekoy bol'nitsy g. Minska (glavnyy vrach A. I. Korkhov).
(HOME NURSING)

BOGOMOLOVA, A. P.

BOGOMOLOVA, A. P.: "The Blood supply of the human pancreas." Irkutsk State
    Medical Inst. Irkutsk, 1955. (Dissertations for the Degree of
    Candidate in Medical Sciences).

SO: Knizhnaya Letopis' No. 22, 1956

BOGOMOLOVA, A.P. (Novosibirsk)

Experimental data on ligation of pancreatic vessels. Eksp. khir. 3
no.6:57 N-D '58.
(PANCREAS—BLOOD VESSELS)   (MIRA 12:1)

BOGOMOLOVA, A.P. (g. Novosibirsk, ul. Sovetskaya, 68, kv. 35).

Arterial arches in the region of the head of the pancreas.
[with summary in English]. Arkh.anat., gist. i embr. 35 no.5:60-63
S-O '58   (MIRA 11:12)

1. Kafedra operativnoy khirurgii i topograficheskoy anatomii
(zav. - prof. A.N. Glinskiy) Novosibirskogo meditsinskogo instituta.
     (PANCREAS, blood supply,
         arterial arches in region of head. (Rus))

L 45151-66   EWT(m)/EWP(w)/EWP(v)/T/EWF(t)/ETI/EWP(k)   IJP(c)   JD/HM/HW

ACC NR: AP6027434   (A)   SOURCE CODE: UR/0125/66/000/007/0070/0073

AUTHOR: Sokolovskiy, P. I. ; Uritskiy, M. R. ; Bogomolova, A. S.

ORG: [Sokolovskiy; Uritskiy] TSNIISK; [Bogomolova] UralNITI

TITLE: High-strength welded pipe for structural designs

SOURCE: Avtomaticheskaya svarka, no. 7, 1966, 70-73

TOPIC TAGS: structural design, construction, welded pipe, pipe steel/S-40 steel, S-70 steel

ABSTRACT: Today's expansion of construction has given rise to new structural high-strength steel sections of modern design, thin-walled tubular shapes being among those in greater demand. Owing to their higher resistance to both twisting and aerodynamic forces, tubular sections of high-strength steel offer a considerable economy of metal. Investigations have shown that the substitution of S-75 steel in thin-walled tubular sections for S-24 grade steels has allowed weight reduction by one half and has produced a saving of 25—30% in cost. As compared

Card 1/2   UDC: 621.791.77:621.648.2/.3

L 45151-66

ACC NR: AP6027434   7

to others, tubular shapes have greater aerodynamic resistance, a major factor
in construction of towers and masts. Most commonly used diameters in hot-rolled
seamless pipe are 50—300 mm. The criterion of maximum effectiveness in a
tubular section is the D/t ratio (where D is the outer diameter and t, the wall
thickness). The higher this ratio, the greater the moment of inertia of the cross
section for the same amount of metal. / For consideration of local stability and
joint rigidity, the maximum ratio is set at 100. The paper offers three methods
of making straight-seam pipe in S-40 to S-70 grades: 1) bending and welding of
coil sheet having the necessary strength prior to these operations; 2) attaining the
required strength by normalizing the pipe of hot-rolled or annealed coil sheet;
and, finally 3) obtaining the necessary strength of pipe by heat treatment, i. e.,
hardening and tempering. A variety of grades is given in the original article.
Their chemical composition and graphs for the mechanical properties of some of
these steels under various heat-treating conditions are presented. Normalizing
is suggested as the preferred type of heat treatment. The authors note the partici-
pation of Engineer A. M. Chirkin in the experimentation as well as the assistance
of the UIChM and IES Institutes in the development of various grades of pipe steels.
Orig. art. has: 3 figures and 3 tables.   ·   [LD]

SUB CODE: 13/   SUBM DATE: 19Jan66/ ORIG REF: 004/

Card 2/2

BOGOMOLOVA, F., kand.med.nauk

Effect of pyramidon on the composition of peripheral blood in
rheumatic fever in children. Zdrav. Kazakh. 21 no.6:51-52 '61.
                                                    (MIRA 15:2)
          (AMIDOPYRINE)   (RHEUMATIC FEVER)
             (BLOOD_ANALYSIS AND CHEMISTRY)